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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,337	08/31/2001	Helmut Hosle	4100-269	1871

7590

08/29/2002

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EXAMINER
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ABDELNOUR, DENNIS J

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 08/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/944,337

Applicant(s)

HOSLE, HELMUT

Examiner

Dennis J. Abdelnour

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 06. 6) ☐ Other:

### **DETAILED ACTION**

The following is a first action on the merits of application serial 09/944,337 filed on April 26, 2001.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the generator in line 6 of claim 1 and the oil pump of line 4, claim 3 must be shown or the feature(s) canceled from the claim(s). Claim 13 cites 'at least two output shafts' which are not shown in the drawings. No new matter should be entered.

3. The drawings are objected to under 37 CFR 1.84(h)(5) because the Figure show(s) modified forms of construction in the same view. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

4. The disclosure is objected to because of the following informalities: on page 2, line 6, please change the reference to application "U.S. Serial No. 09/552,113" to reflect the issued patent number 6,420,808.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not disclose a multi-stage planetary transmission stage, since the planetary gears are not enabled to planetate or orbit around the sun gear. A planetary gear arrangement is defined as an assembly of parts including interacting first and second gears each having a central axis and wherein, during at least one mode of operation, the axis of one of the gears follows a path extending around the axis of the other gear. The disclosed transmission does not enable the planetary gears to orbit the sun gear even selectively. In essence, the disclosure enables for a non-planetary gear reduction stage followed by a spur gear stage.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "said bearing housing" in line 3. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 4, 7, and 10, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (JP 07229471 A).

Takahashi shows in Figure 1 a transmission for a wind generator including a stationary housing (not numbered), a rotor 4 supported in the housing, a planetary gear reduction stage, and a spur gear stage. Annular gear carrier is integral with the rotor 4 and carries annular gear 10, within which is found the planetary gear reduction stage. The planetary gear stage outputs rotation through sun gear 9 which is attached to spur gear 16 on shaft 15 which is mounted for resilient axial movement. Spur gear 16 drives output shaft 5 to power a generator 3 of the wind power assembly. Rotor 4 is formed integrally with a rotor head which holds the wind-driven blades 1 as best shown in Figure 3.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 3, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Arvidsson (USPN 6,082,901).

Takahashi has been described above in paragraph 9. Takahashi further shows a pair of sliding contact bearings supporting the rotor in the housing, as well as an embodiment where bearings 18 are shown as absorbing axial forces in Figure 2. Takahashi does not disclose an oil pump for raising the bearings hydrostatically or means for controlling the oil pump.

Arvidsson discloses hydraulic axial bearings for a radial mounted axle which are controlled by an oil pump.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to include hydraulic axial bearings as taught by Arvidsson in order to decrease the amount of friction in the bearings.

12. Claims 5 and 6, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Huebl et al. (USPN 4,383,520).

Takahashi has been described above in paragraph 9. Takahashi does not show the annular gear fixed to the annular gear carrier by a toothed coupling or by means of a press fit.

Huebl et al. shows shaft 70 mounted with spur gear 33 by a shrink fit, and that "it is also possible to design the pinion and the shaft in one piece and to connect them through a radially

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toothed coupling” (col.4, lines 47-50). Both means of attachment between gears and carriers or shafts supporting the gears are well known in the art.

It would have been obvious to one having ordinary skill in the art to modify Takahashi by connecting the gear carrier and the gear by means of a toothed coupling or a press fit as taught by Huebl et al. in order to simplify assembly.

13. Claim 8-9 and 13, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Kekki et al. (USPN 6,176,804).

Takahashi has been described above in paragraph 9. Takahashi does not disclose a bearing cover secured to the housing, with bearings for the spur gear stage supported in the bearing cover, nor does Takahashi disclose gears having helical teeth, or a flanged housing supporting the spur gear stage with two output shafts.

Kekki et al. shows in figure 6B bearing cover 60 connected to the housing and supporting bearings for the spur gear stage within. Also shown in Figure 9A is an illustration of the helical toothing 16' connected with the sun gear 16, with corresponding helical tooth forms provided on the planet gears and on the ring gear.

Additional backup flange housing 40 is provided (Figure 6A) along with first and second output shafts 23 and 26.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to include a bearing cover attached to the housing including bearings for the spur gear stage as taught by Kekki et al. in order to contain the flow of fluid within the transmission.

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It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to utilize gears having helical teeth as taught by Kekki et al. in order to transmit an axial force.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi to include a second output shaft and a flanged housing containing the spur gear stage as taught by Kekki et al. in order to simplify assembly and to power an additional generator.

14. Claim 11, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Weil. (USPN 5,529,566).

Takahashi has been described above in paragraph 9. Takahashi does not disclose a sensor recording the axial force of the sun gear shaft.

Weil discloses a sensor means for measuring an axial force imparted on a scroll, whereby utilizing one or several axial bearings having axial force sensors. See col. 6, lines 1-4.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi by utilizing the axial bearings having axial force sensors as taught by Weil in order to determine axial forces and determine if such forces become problematic.

15. Claim 12, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Lev et al. (USPN 6,170,156).

Takahashi has been described above in paragraph 9. Takahashi does not disclose surface-hardened annular gear teeth.

Lev et al. discloses a gear tooth shaping process in planetary gear assemblies utilizing surface-hardened teeth.



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It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Takahashi by using surface-hardened gear teeth as taught by Lev et al. in order to improve the transmission's fatigue life.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 07054763 A (Hayashi et al.) – shows a similar wind generator transmission with multiple planetary gear reduction stages.

USPN 3,854,349 (Michling) – shows a multi-stage planetary gear reduction in parallel with a spur gear stage.

### ***Facsimile Transmission***

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is **(703) 305-3597**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mailroom processing and delivery time. For a complete list of correspondence **not** permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check.

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\_\_\_\_\_  
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis J. Abdelnour whose telephone number is (703) 305-5309. The examiner can normally be reached on Monday-Friday, 8:00-5:30, alternate Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (703) 308-0830. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3597 for regular communications and (703) 305-3597 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

dja



August 23, 2002

  
CHARLES A. MARMOR  
SUPERVISORY PATENT EXAMINER  
ART UNIT 3681